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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,577

09/20/2006

Kiyoshi Kato

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1460

31780 7590 12/11/2007
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EXAMINER

LE, DINH THANH

ART UNIT

PAPER NUMBER

2816

MAIL DATE

DELIVERY MODE

12/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

TH

Office Action Summary	Application No. 10/593,577	Applicant(s) KATO, KIYOSHI	
	Examiner DINH T. LE	Art Unit 2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/20/06, 12/15/06</u> | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 2816

DETAILED ACTION

Abstract

The Abstract is objected to because it does not contain a single paragraph within a separate sheet as required. Correction is required.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections

Claim Rejections - 35 USC § 112

Claims 7-8 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction or clarification is required.

In claim 7, the recitation "the amount" on line 2 lacks clear antecedent basis. It is not understood how the terminal on line 2 can control the amount of charge when it is not connected to anything and the terminal is not a control circuit to perform the control function, and where the terminal comes from.

Art Unit: 2816

In claim 8, the description of the present invention is incomplete because the “resistor” is not connected to anything. Thus, the claimed resistor may not perform the recited function. The same is true for claim 13.

The remaining claims are dependent from the above claims and therefore also considered indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 and 8-9 are rejected under 35 USC 102 (e) as being anticipated by Hirata (US 6,670,679).

Regarding claims 1-2, 10 Hirata discloses in Figures 4 and 9-12A a circuit comprising:

- a transistor (104, 104a in Figure 10 or 60 in Figure 12A) having a floating gate (106, 106a in Figure 10 or 55 in Figure 12A) and a control gate (105, 105a in Figure 10 or 57 in Figure 12A), wherein the floating gate (55, Figure 12A) and the control gate (57) of the transistor (60) overlap each other with an insulating film (56, Figure 12A) interposed therebetween; a drain or a source of the transistor is connected to the control gate; and the drain and the control gate are connected to an input terminal (32) and an output terminal, see Figure 10. Wherein the transistors (104, 104a) are thin film transistors.

Art Unit: 2816

- Regarding claim 8, wherein a resistor (107) is connected to the floating gate (106).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6 and 10-13 are rejected under 35 USC 103 (a) as being unpatentable over Hirata (US 6,670,679).

Hirata discloses in Figures 4 and 10-12A a circuit comprising all of the limitations of the claimed invention as stated above but does not disclose a plurality of transistors are connected in series so as to have the same forward current direction. For example, Figure 10 of Hirata shows each transistor (104) includes only one transistor. However, since the transistor (104) Hirata is connected as a diode to provide a voltage drop of .3V-.7V volt on a shunt path when it is on, a skilled artisan realizes that cascaded transistors can be used to provide more voltage drop to adjust the shunt current. Thus, employing a plurality of transistors in series as claimed is considered to be a matter of a design expedient for an engineer depending upon a particular application in which the circuit of Hirata is to be used. It would have been obvious to a person having skill in the art at the time the invention was made to employ a plurality of transistors as claimed for the purpose of ...

Art Unit: 2816

Regarding claims 3-6, wherein the plurality of transistors (104, 104a) are connected in series as shown in Figure 10.

Regarding claim 8, wherein the circuit further comprises a resistor (107).

Regarding claims 10-13, since the circuit of Hirata is a protective circuit; obviously it may be used in a communication circuit comprising an antenna for protecting the communication circuit. Thus, employing the circuit of Hirata for protecting a predetermined communication circuit comprising an antenna is considered to be a matter of a design expedient for an engineer that would have been obvious at the time of the invention.

Allowable Subject Matter

Claim 7 would be allowable if rewritten or amended to overcome the rejection under 35 USC, 112 second paragraph, as set forth above and include all of the limitations of the base claim. This claim is allowed because the prior art of record fail to suggest a connecting terminal for controlling charge accumulated in the floating gate as combined in claim 7.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Richards, can be reached at (571) 272-1736.

Art Unit: 2816

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/2/2007


DINH T. LE
PRIMARY EXAMINER